CLAIMS

1. A diaphragm valve in which a diaphragm valve element airtightly closes open ends of a first flow passage and a second flow passage on an upper surface of a body, the diaphragm valve which is closed when the diaphragm valve element is pressed against a valve seat by urging force of an urging member, and is opened when the diaphragm valve element is separated from the valve seat by an actuator,

wherein the diaphragm valve element comprises a main body in contact with the valve seat, a diaphragm part extending outwards from the main body, and a fixed part formed at a peripheral edge of the diaphragm part, and a root of the diaphragm part formed in the main body is positioned inside a diameter of the valve seat and lower than the peripheral edge of the diaphragm part which extends in a curve in a valve-closed state.

2. The diaphragm valve according to claim 1,

wherein the diaphragm valve element in which the diaphragm part having a thin wall and the fixed part having a thick wall are formed so that respective upper surfaces are flush with each other, and the fixed part is held between an a lower fixing face and an upper fixing face which extends to the diaphragm part.

3. The diaphragm valve according to claim 2,

wherein a guide face having a slope contiguous from the upper fixing face above the diaphragm part so that the diaphragm part comes into contact with the guide face when the diaphragm

valve element is separated from the valve seat.

4. The diaphragm valve according to any one of claims 1 to 3, a fluid-pressure-receiving area of the valve body part is as large as or larger than a fluid-pressure-applied area of the diaphragm part.